

Hypotonic Duodenography

Studies using pharmacologic agents to alter gastrointestinal physiology are extending the potential of diagnostic roentgenology. A fertile field of exploration has been the duodenal loop. This area has always been difficult to examine and, because of spasm or rapid peristalsis, subtle changes reflecting a disease process in the adjacent pancreas may be missed. Hypotonic duodenography, by inducing temporary paralysis with the anticholinergic drug propantheline bromide, allows a detailed demonstration of the anatomy of the duodenal loop.

Tubeless methods were used for many years. Recent methods involve intubation of the duodenum, followed by the administration of 60 mg of propantheline bromide by intramuscular injection. This gives effective atony for about 20 minutes. The duodenum is then distended with barium and air under fluoroscopic control.

Urinary retention is occasionally a problem, so the procedure should be done with caution in the presence of prostatic enlargement. Glaucoma is also said to be a contraindication. A dry mouth, some pupil dilatation, and blurred vision or tachycardia are other effects of the drug.

Signs of abnormality on hypotonic duodenography such as effacement or spiculation of the mucosa are similar to ordinary gastrointestinal roentgenographic studies, except these signs tend to be accentuated and more reproducible.

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Percutaneous Transtracheal Bronchography

The transcricothyroid approach to the tracheobronchial tree provides a convenient, safe and relatively comfortable technique for bronchography. The simplest method is use of the intracath used commonly for venous cannulation. After the skin has been anesthetized, the needle of the intracath is inserted through the cricothyroid membrane. The polyethylene tube is then passed into the trachea and either or both bronchial trees may then be opacified with oily dionosil.

A refinement of the method involves use of the Seldinger technique. After introduction of the needle, a soft flexible guide wire is passed through the needle into the trachea. The needle is removed and a catheter is inserted over the guide wire. Bronchi may then be selectively catheterized with the aid of preshaped tips, tip control devices or magnetic tip control.

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Contrast Laryngography

The contrast laryngogram has proved itself a valuable addition to the armamentarium in both diagnostic and therapeutic radiology. After premedication with atropine, topical anesthesia of the hypopharynx is accomplished by spray or inhalation nebulizer. A long metal cannula is placed on the dorsum of the tongue, and approximately 10 ml of oily contrast material is slowly dripped into the hypopharynx. Fluoroscopic spot films are then made in antero-posterior and lateral projections with the patient erect. Exposures are usually made during inspiration, phonation, Valsalva and modified Valsalva maneuvers. Detailed view of hypopharyngeal and laryngeal anatomy is routinely obtained. The procedure is of the greatest value in the clinical staging of hypopharyngeal carcinoma, but also is helpful in cases of laryngeal trauma. It is particularly valuable in evaluating the subglottic space, which is difficult to assess even with direct laryngoscopy.

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Pulmonary Leiomyoma

The world literature has a total of 21 proved cases of pulmonary leiomyoma, and it is a seldom considered histologic diagnosis in cases of a pri-